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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,130

03/31/2004

Norbert Steven Parsoneault

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11/30/2009

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EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT

PAPER NUMBER

3656

MAIL DATE

DELIVERY MODE

11/30/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/815,130	Applicant(s) PARSONEAULT ET AL.	
	Examiner JUSTIN KRAUSE	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-14,21 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-14,21,23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 9, 2009 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24, 25, and 3-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of claims 24 and 25 recite the invention as a "fluid dynamic bearing", while claim 1, from which claims 24 and 25 depend, recites a "fluid dynamic bearing motor". The scope of claims 24 and 25 cannot be determined. For purposes of examination, the claims are interpreted as reciting a --fluid dynamic bearing motor--.

Regarding claims 3, 4 and 6, there is no antecedent basis for "the wall". It is unclear what the claim references.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 23-25, 3, 6, 9-14, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al (US Patent 4,934,836).

Tanaka discloses a fluid dynamic bearing motor comprising:

a liner (13) having a longitudinal wall (13a) and further having a bottom (13b) that is contiguous from the wall extending radially inward from the wall,
a rotor assembly (60, 61) having a shaft (30) that is rotatably supported within the liner.

Regarding claim 23, a base (12) defines a bore (14), wherein the liner is secured within the bore (see fig. 2).

Regarding claim 24, a fluid dynamic bearing is disposed between the liner and the shaft (col. 7, lines 59-64).

Regarding claim 25, the bottom defines a hole (17) therethrough, the fluid dynamic bearing further comprising a recirculation channel (20+21) disposed outside the liner and in fluid communication with the fluid dynamic bearing via the hole in the bottom (as broadly recited, the channel is a recirculation channel as the channel is capable of recirculating fluid within the bearing).

Regarding claim 3, the recirculation channel is formed in the base extending along the wall and along the bottom (see fig. 2).

Regarding claim 6, the fluid dynamic bearing comprises a journal bearing (15) operably supporting the shaft in rotation against the wall and a thrust bearing (16) operably supporting the shaft in rotation against the bottom.

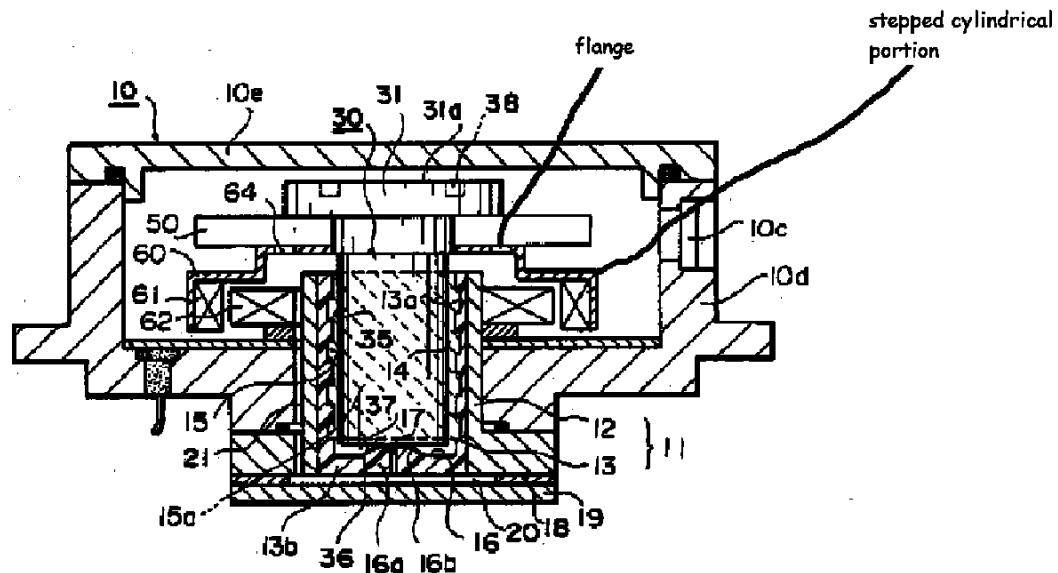
Regarding claims 9 and 10, the base is disclosed as aluminum, which is capable of being manufactured by machining, forging and casting.

[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

MPEP 2113.

Regarding claims 11 and 12, the rotor assembly includes a hub (60). The process by which the hub of the rotor assembly is made does not impart any additional structure to the device. See MPEP 2113.

Regarding claim 13, the hub further includes a flange and a stepped cylindrical sidewall extending from the flange and circumscribing at least a portion of the base (see figure below).



Regarding claim 14, a magnet (61) is attached to the hub and a stator (62) is coupled to the base, the magnet and stator are configured to generate a preloading force on the hub (a magnetic force is generated between the magnet and stator, accordingly the hub is preloaded).

Regarding claim 21, the liner defines an open end and the recirculation channel fluidly connects the fluid dynamic bearing via the hole with the open end.

Claims 1, 23, 24, 9-12, and 14 rejected under 35 U.S.C. 102(b) as being anticipated by Takajo et al (US Patent 5,009,520).

Takajo discloses a fluid dynamic bearing motor comprising:

a liner (5) having a longitudinal wall (5b) and further having a bottom (see fig. 2) that is contiguous from the wall extending radially inward from the wall,
a rotor assembly (17, 17a) having a shaft (15) that is rotatably supported within the liner.

Regarding claim 23, a base (12) defines a bore (11a), wherein the liner is secured within the bore (col. 5, lines 5-7).

Regarding claim 24, a fluid dynamic bearing is disposed between the liner and the shaft (dynamic pressure is formed between the liner and the shaft by grooves 5a molded in the liner).

Regarding claims 9 and 10, the base is capable of being manufactured by machining, forging, molding or casting.

[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

MPEP 2113.

Regarding claims 11 and 12, the rotor assembly includes a hub (17a). The process by which the hub of the rotor assembly is made does not impart any additional structure to the device. See MPEP 2113.

Regarding claim 14, a magnet (17) is attached to the hub and a stator (15) is coupled to the base, the magnet and stator are configured to generate a preloading

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force on the hub (a magnetic force is generated between the magnet and stator, accordingly the hub is preloaded).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

If applicant's intent is for "the wall" to mean, "the longitudinal wall", as recited in claim 1, then claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka as applied to claim 25 above, further in view of Chen (US Patent 5,716,141).

Tanaka does not disclose the recirculation channel along the longitudinal wall, however does disclose the recirculation channel extending along the bottom.

Chen teaches a recirculation channel (111 or 109) which extends along the longitudinal wall of the liner for the purpose of providing recirculating flow during operation and to relieve pressure during a static condition (col. 9, lines 12-17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Tanaka to include a recirculation channel extending along the longitudinal wall for the purpose of providing recirculation flow during operation and to reduce pressure in a static condition as taught by Chen.

Claims 4 and 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka as applied to claim 3 above, further in view of Chen (US Patent 5,716,141).

Tanaka does not disclose a capillary seal.

Chen teaches a capillary seal (138) between a wall and a shaft (see fig. 6) for the purpose of preventing lubricant from escaping from the bearing.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Tanaka to include a capillary seal between the wall and the shaft for the desired purpose of preventing lubricant from escaping the bearing.

Regarding claim 5, Chen discloses a recirculation channel (111, 109) which fluidly connects the bottom of the bearing to the capillary seal. In the combination of Tanaka and Chen, the resulting structure is a recirculation channel which connects the hole to the capillary seal.

Claims 7 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka as applied to claim 6 above, further in view of Tanaka et al (US 2001/0022869, herein referenced as Tanaka '869 to avoid confusion).

Tanaka does not disclose the shaft comprising a patterned feature that pumps fluid in the fluid dynamic bearing toward the hole, however Tanaka does disclose a patterned feature on the liner which pumps fluid toward the hole.

Tanaka '869 teaches the patterned feature may be applied to the liner (17, see fig. 1) or to the shaft (117, see fig. 3) to achieve the same result, preventing lubricant from escaping the bearing (see, for example, paragraph 0058).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Tanaka and form a patterned feature on the shaft for the desired purpose of providing a means of asymmetrically pumping fluid to prevent lubricant from flowing out of the bearing as taught by Tanaka '869.

Regarding claim 8, Tanaka discloses the patterned feature including at least two grooved bearing surfaces (the radial surface and the thrust surface). Tanaka '869 also discloses at least two grooved bearing surfaces (107).

Response to Arguments

Applicant's arguments with respect to claims 1, 3-14, 21 and 23-25 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's request that the previously proposed Examiner's Amendment be appended to this office action, the proposal is rendered moot in view of further search and consideration, and the new grounds of rejection set forth above.

With regard to applicant's request for an interview, applicant has been given two previous interviews in an attempt to place the application in condition for allowance. As the present amendment broadens the independent claim, and fails to present any allowable subject matter within the claims, an interview would not advance prosecution at this time.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN KRAUSE whose telephone number is (571)272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Justin Krause/
Examiner, Art Unit 3656